Addictive Behaviors 76 (2018) 265–269

Contents lists available at ScienceDirect

Addictive Behaviors

journal homepage: www.elsevier.com/locate/addictbeh

Association of childhood abuse and prescription opioid use in early adulthood

Anna E. Austin[a,b,*], Meghan E. Shanahan[a,b], Bharathi J. Zvara[b]

[a] Injury Prevention Research Center, University of North Carolina at Chapel Hill, 137 East Franklin Street, Suite 500, Chapel Hill, NC 27599-7505, United States
[b] Department of Maternal and Child Health, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, 421C Rosenau Hall, CB #7445, Chapel Hill, NC 27599-7505, United States

HIGHLIGHTS

- 5.4% of young adults reported recent prescription opioid use.
- Childhood abuse was significantly associated with recent prescription opioid use.
- Understanding upstream determinants of prescription opioid use informs prevention.

ARTICLE INFO

Keywords:
Childhood abuse
Prescription opioids

ABSTRACT

Introduction: Previous research has examined the association of childhood abuse with opioid misuse and dependence in adulthood. However, little research has focused specifically on prescription opioids, and no studies have examined associations with prescription opioid use, a potential pathway to later opioid misuse and dependence. The aim of the present study was to examine the association of childhood emotional, physical, and sexual abuse with prescription opioid use in early adulthood.

Methods: We used data from Waves I (12–18 years) and IV (24–32 years) of the National Longitudinal Study of Adolescent to Adult Health. At Wave IV, respondents reported experiences of childhood abuse occurring prior to age 18 years and prescription opioid use in the last four weeks. We conducted multivariable logistic regression to examine associations of childhood abuse with recent prescription opioid use.

Results: In multivariable models adjusted for respondent sex, race/ethnicity, age, and socioeconomic status, childhood emotional abuse (OR = 1.57, 95% CI 1.29, 1.90), physical abuse (OR = 1.46, 95% CI 1.14, 1.87), and any childhood abuse (OR = 1.51, 95% CI 1.24, 1.82) were significantly associated with recent prescription opioid use.

Conclusions: Given continued increases in prescription opioid use and opioid-related morbidity and mortality in the U.S., understanding upstream social and environmental factors associated with prescription opioid use is important to strengthening and expanding current prevention and intervention strategies. Future research is needed to examine factors potentially mediating the association between childhood abuse and prescription opioid use in order to provide additional insights for prevention and intervention efforts.

1. Introduction

Childhood abuse is associated with a range of negative outcomes across the life course (Anda et al., 2006; Gilbert et al., 2009; Hussey, Chang, & Kotch, 2006). In particular, several studies demonstrate an association between a history of childhood abuse and substance use in adulthood (Dube et al., 2003; Lo & Cheng, 2007; Spatz Widom, Marmorstein, & Raskin White, 2006). To date such research has primarily focused on alcohol abuse and illicit drug use. However, in the United States over the past two decades, there has been a dramatic increase in the rate of prescription opioid use and associated increases in opioid-related morbidity and mortality (Calcaterra, Glanz, & Binswanger, 2013; Dart et al., 2015; Sairam Atluri, Gururau Sudarshan, & Laxmaiah Manchikanti, 2014). Notably, relatively little research has focused on the association between a history of childhood abuse and later prescription opioid use.

A few studies have examined the association of childhood abuse and neglect with opioid (i.e., illicit and prescription opioids) misuse and

* Corresponding author.
E-mail address: anna.austin@unc.edu (A.E. Austin).

http://dx.doi.org/10.1016/j.addbeh.2017.08.033
Received 6 June 2017; Received in revised form 14 August 2017; Accepted 29 August 2017
Available online 01 September 2017
0306-4603/

dependence in adulthood (Conroy, Degenhardt, Mattick, & Nelson, 2009; Heffernan et al., 2000; Kecojevic, Wong, Corliss, & Lankenau, 2015; Nelson et al., 2006; Quinn et al., 2016). Results from these studies suggest that a history of childhood abuse or neglect is associated with an increased likelihood of subsequent opioid misuse or dependence (Conroy et al., 2009; Heffernan et al., 2000; Kecojevic et al., 2015; Nelson et al., 2006; Quinn et al., 2016). For example, among same-sex twin pairs discordant for childhood sexual abuse, opioid use was found to be more prevalent among twins who reported childhood sexual abuse compared to their non-abused co-twins (OR = 2.08, 95% CI 1.07, 4.03), suggesting that childhood sexual abuse is a unique contributing factor to later opioid use, above and beyond the effects of shared genetic and environmental factors (Nelson et al., 2006). In a U.S. sample of young men who have sex with men and who had a misused a prescription drug in the past 6 months, a significant association was found between childhood physical abuse and recent prescription opioid misuse (OR = 2.60, 95% CI 1.07, 6.28) (Kecojevic et al., 2015). Associations between childhood abuse and prescription tranquilizer or stimulant misuse were not significant, suggesting that prescription opioid misuse and its associated effects may serve as a means to cope with physical and emotional distress resulting from childhood physical abuse (Kecojevic et al., 2015). Using data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), Quinn and colleagues noted associations of childhood neglect (OR = 1.35, 95% CI 1.10, 1.66) and emotional abuse (OR = 1.24, 95% CI 1.04, 1.51) with prescription opioid misuse among adults 18–26 years and of emotional abuse (OR = 1.55, 95% CI 1.19, 2.02) with prescription opioid misuse among adults 24–32 years, highlighting the potential life course implications of childhood abuse and neglect for later prescription opioid misuse (Quinn et al., 2016).

While the existing research literature contributes substantially to an understanding of the association of childhood abuse and neglect with opioid misuse and dependence, there are notable gaps. Few studies have focused specifically on prescription opioids. Most have examined use of opioids, broadly defined as use of either illicit (i.e., heroin) or prescription opioids. Though heroin has increasingly contributed to opioid-related morbidity and mortality in recent years, prescription opioids are considered to be the major driver of adverse opioid-related outcomes in the U.S., which have reached epidemic levels (Rudd, Aleshire, Zibbell, & Matthew Gladden, 2016). In addition, many studies have focused on opioid misuse or dependence, with little research examining potential associations of childhood abuse with use of prescription opioids. Understanding associations with use is important as prescription opioid use represents a potential pathway to later opioid misuse and dependence (Miech, Johnston, O'Malley, Keyes, & Heard, 2015) given the high abuse potential of these medications (Kosten & George, 2002). As such, use represents an important point of intervention to prevent the potential onset of misuse behaviors and physical and psychological dependence. Lastly, many of the existing studies were conducted among clinical populations, with potential limited generalizability to the larger population of opioid users. Thus, the aim of the present study was to examine the association of childhood emotional, physical, and sexual abuse with prescription opioid use in early adulthood in a nationally representative sample.

2. Methods

2.1. Data source

We used data from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is a study of a nationally representative probability sample of U.S. adolescents in grades 7 through 12 during the 1994–1995 academic year (Harris, 2013). A stratified random sample of 80 U.S. high schools and 52 middle schools was selected with probability of selection proportional to school size and stratification with respect to region of country, urbanicity, school size and type, and ethnic composition. From selected schools, a core sample of students was randomly selected with stratification by grade level and sex and over-sampling on the basis of ethnicity, genetic relatedness, adoption status, and disability. In total, 79% of selected students consented to complete the Wave I interview (N = 20,745). Three follow-up in-home interviews of the sample were conducted in 1996 (Wave II), 2001–2002 (Wave III), and 2008 (Wave IV). Data for this study were drawn from Waves I and IV. At Wave IV, 15,701 young adults (80% response rate) ages 24 to 32 years were interviewed. We restricted the analytic sample to respondents who completed Waves I and IV and had valid sampling weights (N = 14,800).

2.2. Measures

2.2.1. Childhood abuse

At Wave IV, respondents were asked about experiences of childhood emotional, physical, or sexual abuse by parents or other adult caregivers prior to age 18 years. Questions regarding childhood abuse were modifications of items from previous surveys (Finkelhor & Dziuba-Leatherman, 1994; Moore, 1995; Straus, Kinard, & Williams, 1995). Emotional abuse was assessed with the question, “How often did a parent or other adult caregiver say things that really hurt your feelings or made you feel like you were not wanted or loved?”. Physical abuse was assessed with the question, “How often did a parent or adult caregiver hit you with a fist, kick you, or throw you down on the floor, into a wall, or down stairs?”. Sexual abuse was assessed with the question, “How often did a parent or other adult caregiver touch you in a sexual way, force you to touch him or her in a sexual way, or force you to have sexual relations?”. Response options for each question ranged from “this never happened” to “more than ten times”. Consistent with previous research using data from Add Health, we dichotomized each type of abuse as occurring one or more times or as never occurring (Haydon, Hussey, & Halpern, 2011; Shin & Miller, 2012). Because different types of childhood abuse have been demonstrated to covary (Higgins & McCabe, 2001), we also created a single composite measure to indicate whether respondents reported any type of abuse (emotional, physical, or sexual) prior to age 18 years.

2.2.2. Recent prescription opioid use

Data on respondent use of prescription medications in the last four weeks was collected during the Wave IV interview. If the interview was conducted in the respondent's home or medication containers were readily available (e.g., in the respondent's purse), interviewers were instructed to ask the respondent to present the medications so that the interviewer could record the medication name. Otherwise, the respondent was asked to list any prescription medications taken in the last four weeks from memory. All prescription medications were therapeutically categorized using Multum Lexicon™ and assigned a nine-digit therapeutic classification code (Tabor & Whitsel, 2010). Consistent with prior research, we categorized prescription medications as a prescription opioid if any of the following codes were included in the nine-digit therapeutic classification code: 060 (narcotic analgesics), 191 (narcotic analgesic combinations), or 059 (miscellaneous analgesics - unspecified) (Frenk, Porter, & Paulozzi, 2015). Nonsteroidal anti-inflammatory agents were not included.

2.2.3. Control variables

To identify potential confounding factors in the association between childhood abuse and prescription opioid use, we used a directed acyclic graph (DAG). DAGs are graphical depictions of causal relationships among variables, with relationships specified based on existing empirical evidence (Greenland, Pearl, & Robins, 1999; VanderWeele, Hernán, & Robins, 2008; VanderWeele & Robins, 2007). DAGs are commonly used in research to determine which variables should be included as covariates in multivariable analyses to control for confounding (Greenland et al., 1999; VanderWeele et al., 2008;